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and the width of the wall facing on to the *ruai* is some indication of the general social standing of the family that owns it. In Rumah Nyala, of the Sungai Sut, the smallest *bilek* was 12ft. 6ins. wide by 16ft. deep, while the largest was 23ft. wide by 17ft. 6ins. deep.

(*b*) The *sadau*. Above each *bilek*, and jutting out over the *ruai*, is the *sadau*, which is a kind of garret or loft. Here, in immense bark bins, is stored the grain (*padi*) grown by the members of the family. Also kept in the *sadau* are the various implements used in farming, and the mats, baskets and trays used when *padi* is being husked and winnowed.

(*c*) The *ruai*. The door of each family *bilek* opens on to another section of the apartment known as the *ruai*, and which—like the *bilek*—is the private property of the family to which it belongs. The *ruai* serves many purposes. Immediately adjacent to the wall dividing the *bilek* from the *ruai* is a section about three to four feet in width, known as the *tempuan lesong*. Here stands the *lesong*, a large wooden mortar, in which the women of the family pound their *padi* with long, hardwood poles, so to husk it. Adjoining this narrow strip comes another section, usually about 10 to 12 feet in width, and completely unobstructed by posts or partitions; it thus forms a corridor or gallery giving access to all parts of the long-house. It is, in fact, a kind of village street, and is used by all the members of the community as a general thoroughfare. Flanking this corridor or 'street' are the *padong ruai*, open, rectangular spaces, one of which belongs to each family apartment. These *padong ruai* are the main centres of community life and social intercourse. Like the *bilek*, of which it is an extension, each section of the *ruai* (composed of the three divisions just described) is owned by a single family. It is the duty of each family to keep its section of the corridor in good repair so that all may use it. But this general use involves no diminution of ownership rights; each family retains the right to cordon off its section of the *ruai* during the performance of certain rituals, and on other occasions to insist (on the pain of fine) that prohibitions governing its use be fully observed by all members of the long-house community. The boundaries of each family section of the *ruai* are clearly marked by the main supporting posts of the long-house structure.

(*d*) The *tanju*. Beyond the *ruai*, and so not covered by any form of roof, is the *tanju*, an open platform, usually about 20 to 25 feet wide. As with the corridor of the *ruai*, all the independently owned section of the *tanju* are joined to form an unbroken, raised platform, which fronts the whole long-house. The *tanju* is used for a wide variety of domestic tasks; in particular it is the place where *padi* is sunned prior to pounding.

4. It is the joining together of a number of different family apartments (each made up of a *bilek*, a *sadau*, a *ruai* and a *tanju*) that produces the attenuated structure known as a long-house. A long-house community is thus, in essence, a village consisting of a single 'street' of attached apartments. It is most important to realize, however, that each apartment is the private property of one family. Figure 2, depicts a typical Iban long-house, in this case, of ten family apartments. Let us now examine more closely the various family units of which a long-house community is composed, for these are the basic corporate groups of Iban social and economic life.

The Iban Bilek Family

5. In Government and other publications the family apartments of an Iban long-house are commonly referred to as 'doors.' A long-house, that is, is usually

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did happen that the first *manggol* rites marking the formal inauguration of the agricultural year were performed on Wednesday, 1st June, but because of abnormally wet weather, the firing of the farms was seriously delayed, and sowing did not begin until 18th September.

The Rites of Manggol

85. The rites of *manggol* which mark the inauguration of the agricultural year are elaborate. They begin with a general ceremony, conducted by the *tuai burong*, or augur of the community, which all *bilek* families are at liberty to attend. Thereafter, however, each *bilek* family performs its own rites in the manner which its senior members think fit. The main purposes of the *manggol* rites are: (*a*) the procuring of auspicious bird omens; (*b*) the propitiation of the spirits of the earth and the jungle; and (*c*) the inauguration of the major operation of felling, by the use of ritual whet-stones (*batu manggol*). The whole process takes from about twenty days to a month. These intricate rituals will be discussed in detail in my study of the Iban *padi* cult; all that need concern us here is the fact that the *manggol* rites mark the beginning of the first stage in the labour cycle—the clearing of the undergrowth.

Clearing the Undergrowth

86. The clearing (*tebas*; v.f. *nebas*) of the undergrowth is a clearly defined operation, and not until it has been completed, does the felling proper (*tebang*, v.f. *nebang*) begin. The process is a gradual one, for it is geared to the performance of a series of rituals. On the first day, an area of not more than one or two square poles is cleared, and only small saplings slashed. On ensuing occasions longer and longer periods are devoted to *nebas*, and not only saplings, ferns and creepers and the like, but young trees (i.e. up to about 3–4 inches in diameter) are cut down; until finally, every kind of growth which can be tackled with a bush-knife, or *duku*, has been cleared away. This use of the bush-knife as a tool is the distinguishing feature of the *nebas* stage. Again, because the bush-knife is so easy to handle, both women and boys are able to join in the work.

Felling the Jungle

87. When the preliminary clearing of undergrowth has been completed, the men move on to the much more arduous and difficult task of tree felling. If the farm be in virgin jungle (*kampong*), the smaller trees are dealt with first, and the giants, which may be 150–200 feet in height, and 15 feet and more in girth, are left till last. Felling such trees, often on steep and broken hill-sides, is an undertaking which calls for strength, dexterity, agility and nerve. But these are qualities which the Iban cherish, and which every young man of ambition hopes to develop. Tree felling, particularly in virgin jungle, is the man's task par excellence; an occasion for the demonstration of skill and daring, an opportunity for a young man to establish himself among his peers. In every community there are men of outstanding prowess, who excel in tackling the more difficult giants which are always left till last, and have the special name of *galau*. Felling these *galau* is a pastime not without hazard, for it can happen that one of them, on falling, will recoil—suddenly and without warning—and crush the axeman before he has had time to escape. The adventures and misadventures of *nebang* are a favourite topic of Iban men, and each year as the new season approaches old stories are told anew, and the tasks that lie ahead relished in advance. Sometimes, indeed, a man will lay claim to a tree which for some reason or other has

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taken his fancy, or which, perhaps, he views as a challenge to his skill. In Iban ritual invocations (*timang*), the prowess of their gods and culture heroes in felling immense and primordial trees is a recurrent theme. Tree felling is the one activity of the farming year in which young men revel, and in many cases it is the only stage in which they deign to participate, for after it is over they set off on journeys (*bejalai*), and do not return until the harvest is well advanced and the crop ready to be carried in and threshed.

Figure 3. An Iban *bliong*

88. In tree felling two main tools are used: (*a*) the *bliong*, an hafted adze; and (*b*) the *kapak*, an axe of European type. The *bliong* is the traditional implement of the Iban, and they are expert at forging their own adzes and hafting them to hard-wood shafts with *rotan* lashings (Figure 3). Different men have different notions as to the exact size, weight and shape of adze best suited to felling; and many have a favourite *bliong* that is highly prized for its special qualities. At the beginning of each season the blades are re-forged, new cutting edges formed and tempered, and then ground on large whet stones to a fine pitch of sharpness. Axe-heads of European type, on the other hand, are purchased from Chinese traders, but in most cases they are partly re-forged, and handles of Iban design specially fitted. In passing, it may be noted that the Iban system of agricluture, involving as it does, the felling of large areas of virgin jungle, is dependent on the use of iron tools. Such extensive methods could not be followed by a neolithic people. There is however, no archaeological evidence concerning the neolithic period of the Iban, nor is there any mention in their traditions of stone tools. This is not surprising, for metals were in widespread use in eastern Asia and Indonesia for many centuries prior to the first arrival of Europeans. Our earliest historical accounts of the Iban describe a highly developed material culture based on the use of iron tools. Low, in recording observations made during the years 1845-47, wrote of the Iban: "Iron being necessary in the formation of their

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weapons of war, they have studied, and brought to greater perfection its workmanship than others of the mechanical arts;" and he suggests that prior to European contact, the Iban may have "fused and wrought the ore of the island," as did certain Kayan and other tribes.[1] This is one possibility, though it is probable that for many centuries the Iban have maintained economic relationships (similar to those existing to-day), with Chinese and Malay traders, with metal objects, ceramics and beads as their principal purchases; and indeed, it may well be that the Iban were in possession of iron before their arrival in Borneo.

89. To facilitate the felling of large trees, which are always left till last, the Iban construct a special scaffolding, or *tundan* (Plate 7). This is a rough structure of stout poles, lashed together with creepers, and often reaching a height of fifteen to twenty feet from the ground. The purpose of these *tundan* is to lift the axe-man above the buttress roots—which are a feature of so many Borneo trees—and so lighten his task. To commence with, it is usual for two axe-men to work on the same staging, but as the felling approaches its climax, one of them always leaves, and stands well clear, ready to shout advice to his companion. The man left behind continues with the felling until a creaking and rending of timber announces that the giant is about to fall; then, flinging aside his axe, he darts down the slender poles of the rickety scaffolding, and scampers away to a point where recoil is no longer a danger. As the massive tree crashes to the ground, there are shouts of triumph (*manjong*), and the workers scramble forward to see if it has fallen as they had planned. Accomplished axe-men pride themselves on their ability to fell a tree in exactly the direction they choose, and sometimes, by felling a series of trees end to end, they contrive to produce a kind of raised pathway of huge trunks, bridging hollows and depressions in the surface of the farm.

90. The clearing of secondary jungle (*damun*) is a very different sort of task. In its early stages (e.g. during the first five or six years of regeneration), the standard method is slashing with a bush-knife, and in this work women and boys commonly participate. The traditional Iban system of land usage is to cultivate a patch of land for two years in succession, or several times within a brief span of years, and then to let it revert to secondary jungle, for as long a period as possible—usually for about fifteen years. Such secondary jungle is called *damun*, and after fifteen or twenty years it contains trees of two to three feet in girth, between which there thrives a tangle of undergrowth. This *damun* is markedly different in composition from virgin jungle, and its character varies according to the kind of usage to which the land has been previously subjected. A preliminary clearing (*nebas*) of undergrowth is almost always necessary, and, as in the case of virgin jungle, a bush-knife is used, and both boys and women join in the task. After *nebas* has been completed, the operation of *nebang*, or felling, follows. In *damun* this is a straight-forward undertaking, without the technical difficulties and attendant dangers of felling virgin jungle, and it can be achieved in something like a quarter of the time. An axe (*kapak*) is the chosen implement, and the workers move methodically up a slope felling the trees at about waist height. As we have seen, the work of clearing the jungle, in readiness for the all-important burn, begins early in June, when the rites of *manggol* are embarked upon. Conditions vary very widely from farm to farm, but even in the case of difficult *kampong*, felling is usually completed by mid-July, or at least by the beginning of August.

[1] Hugh Low, "Sarawak," 1848, p. 209.

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243 100. *Ngebak* and sowing are carried on more or less simultaneously. Thus a man and his wife will clear six or seven square poles, and then retrace their steps to dibble and sow this area, and so on. If there be several men in the labour team, most of them will devote their time to *ngebak*, leaving one of their number to dibble. Following a good burn however, all of this arduous re-clearing of the land is avoided, and planting goes ahead without interruption.

The Planting of the Padi: Dibbling

[462] 101. The Iban method of planting *padi* is a simple, though onerous one. Its leading feature is the sharp division of labour between the sexes. In planting a farm, man and woman work together, the man ranging on ahead with his dibbling-stick, and the woman following him up to cast seed into the holes which he has made. A dibbling-stick (*tugal*) is a hardwood staff, usually about 5ft. 6ins. in length, with a circular cross-section. Often it is notched at the top to afford a better grip, and flared out slightly at the base, before tapering away to a point. Held firmly in the hand, and at about shoulder height, the dibbling-stick is thrust sharply into the ground, and then withdrawn with a very slight twist of the wrist (Plate 10). Almost all men are ambidextrous, making holes first on one side and then on the other, and reaching into inaccessible corners with ease. In good soil a dibbling-stick makes a conical hole about three inches in depth, and one and a half inches in diameter, at the surface. When traversing unobstructed ground, Iban men attain a very high pace of dibbling, and I have timed men to exceed 110 holes per minute. But this sort of pace is only encountered on ritual occasions, when visiting men enjoy showing off and competing with one another. A detailed series of measurements showed that in the normal course of everyday work, most men maintain a dibbling pace of about 60 holes per minute.

243 461

243 102. Of wider significance is the standard placement of dibble holes over a given area. The method I used to calculate this was to cast a yard rule at random onto a dibbled tract of *umai*, and then make a count of the number of holes in one square yard of ground. The dibbling of many different men was studied, and a total of 56 counts made. There was an overall range of from 8 to 16 dibble-holes per square yard, and a difference in individual averages ranging from 10·3 to 13·4 holes per square yard. The general mean for the 56 counts was 12·2 holes per square yard, and the median and mode were both 12. If the general mean of 12·2 dibble-holes per square yard be accepted, this represents an average of 59,048 holes per acre.

The Planting of the Padi: Sowing

243 415 103. In the wake of the dibblers move the sowers. Tied around her waist, or grasped in her left hand, each woman carries a small seed basket, or *keban*. Measuring about six inches in diameter and eight to nine inches in depth, a *keban* can comfortably hold several pints of *padi* seed. The plaiting of these *keban* is woman's work, and the best of them, made from fine strands of *rotan*, are decorated with beautiful spiral patterns (Figure 4). At the foot of the slope being planted, stands a larger type of basket (about 10 inches in diameter, and 18 inches in height), called an *uyut*, which contains upwards of two or three gallons of *padi* seed (*benih*), and to this the women return, when necessary, to replenish their *keban*. This *uyut* is surrounded by a set of ritual prohibitions (*pemali*).

243 104. When sowing (*menih*), a woman takes a handful of seed from her *keban*, and bending down so that her hand is within about ten inches of a dibble-hole, she ejects a tiny stream of grain from between her index and middle fingers. This

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disciplined effort. But at the same time it is not a task of immediate urgency; it is easy for the lazy and the dilatory to find excuses for shirking their responsibilities. In fact this is what happens, so that among the various *bilek* families of a long-house one finds wide variations in the time and industry devoted to weeding. At Rumah Nyala one or two farms were weeded with the greatest of care, while others were left either unfinished or only perfunctorily covered. Felling, dibbling, sowing and reaping are standardized operations which every *bilek* family must perform, while, in contrast, weeding (like *ngeredak*) is a task which may be more or less thoroughly discharged. This is not to say that the importance of weeding is underrated. Time and again I overhead such statements as "If the weeding is not thoroughly done there will not be a good crop" ("*Enti enda mantun badabadas enda bulih padi*"); "Amid weeds *padi* refuses to thrive" ("*Alam babas enggai padi idup*"); and "The grain of unweeded *padi* lacks substance" ("*Padi enda di mantun nadai isi*"). On another occasion a group of men made the point that after a thorough weeding insect pests are fewer, and this is greatly to the advantage of the growing *padi*.

122. On the completion of sowing there is usually a brief lull in farm work, but within about a week all conscientious families have embarked on their weeding. Weeding (*bantun*, v.f. *mantun*) is predominantly the work of women. Girls begin to join in the work with the approach of adolescence, and they continue year by year until old age prevents their participation. At Rumah Nyala, the most assiduous weeders were old ladies of between sixty and seventy years, and there were only two non-participants, one of sixty-five and the other of seventy years, both of whom were partially crippled. To protect herself from the sun each woman wears a jacket (*kelambi*) of cloth, and a huge, mushroom-shaped hat (*tanggi*) fashioned from the fronds of a jungle palm (*daun biro*). The commonest tool is a short-bladed bush-knife, or *duku*, but some families equip themselves with specially made implements called *ilok*. A typical *ilok* from Rumah Nyala had a round-ended, iron blade (2" × 6"), set at right-angles to a slender shaft (4" in length) which was embedded in a wooden handle shaped to fit the hand. Women engaged in weeding leave their *dampa* soon after dawn, taking advantage of the coolness of the early morning, but they normally remain at the farm throughout the day, pausing for food and rest at about mid-day, and returning home towards late afternoon. Those actually living on their farms, in a *langkau*, or farm hut, begin even earlier, and they are also able to make use of the hour or two of coolness at the end of the day. In thorough weeding an entire area is worked over methodically by hand, the women bending, kneeling or squatting between the clumps of growing *padi*, and uprooting or cutting away the thick carpet of weeds that covers the farm. Under these conditions progress is slow, for a woman must take care not to injure the young *padi* plants, and the difficulty of her work is often increased by the steepness of the terrain, and the fact that her path is obstructed by stumps and fallen logs. To lighten the task of weeding the women of a *dampa* try, as far as possible, to organize work groups on a labour-exchange basis. Usually there are three or four *bilek* families represented in each group, and all the women concerned move from farm to farm in strict rota, spending one day at each. Companionship and gossip, it is said, make the drudgery of weeding easier to bear.

123. The main brunt of weeding falls then, upon the women, and if sufficient women be available no man will stoop to the task. Nevertheless, the time comes when most men are compelled to do so. One of the special features of the Iban

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family's crop, and this increases the likelihood of excessive indulgence in *nyuma* during the following year, and so on. In contrast, a family with sufficient *padi* reserves to enable it to dispense with premature reaping is strengthening its position, and increasing the probability of a surplus.

The Nganjong ka'Penyadai Ritual

140. Once the *mata ka padi* ritual has been performed, the reaping of *padi muda* (quick-ripening rices) and *padi pulut* (glutinous rices) is embarked upon as soon as they are judged to be in a sufficiently mature state. The commencement of the main harvest (i.e. of the *padi taun*) is signalized by an important ritual known as *nganjong ka penyadai*. A *penyadai* is a small plaited mat, or a piece of bark-cloth, usually about four feet square, which is placed in the centre of the growing *padi* as a resting place both for reaping baskets (*sintong*) and the larger containers (*lanji*) in which the panicles are carried back to the long-house (or *dampa*) for threshing. This mat does have the practical use that it catches any *padi* that is accidently spilt while being transferred from *sintong* to *lanji*, but its principal purpose is a ritual one. We have noted the attitude of extreme deference and respect which the Iban have towards their *padi*, and the *penyadai* is primarily a precinct or sanctum where the souls of the *padi* can foregather. The ritual begins with the burial of an offering (*piring*) for the spirits of the earth. The panicles of the nearby clumps of *padi* are then plucked, and the stalks bent over several times and pressed down onto the ground; one clump has a brass bangle placed about it and is then tied in a knot. At the same time an incantation is uttered aimed at immobilizing the soul of the *padi*, and so preventing it from wandering from the farm in question. On the top of these imprisoned clumps the mat or piece of bark-cloth is laid down, and pegged in place with omen-sticks. Further offerings are performed, and all the other *padi* spirits are invited to make use of the *penyadai*, and entreated to assemble there in due course (Plate 20). This part of the ritual complete, the women prepare a magical potion from a variety of hereditary charms, and scatter the fluid over the growing *padi* with the injunction that the crop be made easy to reap and prove to be an abundant one.

141. Following this inaugural ceremony only a few baskets of *padi* are gathered, and on the next day no-one goes to the farm—as a safeguard against bad omens, and a pause to let the magic take effect. On the third day the site is re-visited, and the *penyadai* is 'fed' (*nyape*) by having a small quantity of cooked rice (*asi*) smeared upon it. Thereafter, the normal routine of harvesting continues, but each morning one of the reapers goes first to the *penyadai* to 'feed' it, until it is finally moved for the reaping of the *padi pun*, or sacred rice.

Iban Methods of Reaping

142. With the Iban, reaping a farm is a slow and protracted operation, for each panicle is plucked separately by hand. On rare occasions (at rituals, for example) women sometimes gather in the *padi* with their bare fingers, but the stems are too tough for this to become a regular practice, and in ordinary day to day reaping a small hand-knife, or *ketap* is used. A *ketap* (they are specially forged by Iban men for their womenfolk) consists of a thin blade of iron, with a base of about 2½ inches curving in from each end to a cutting edge of some 2 inches in length, the width of the blade being about 1½ inches. This blade is set firmly in the centre of a piece of bamboo (3 ins. long × ½ in. diameter), and held in place by a primitive cotter-pin fashioned from a piece of wire. In reaping, the bamboo handle is held upright in the palm of the hand, with the blade protruding slightly

1: Freeman E-5 (1949-1951)1955 OC6 Iban OC6

X 243 ● 412 from between the second and third fingers; the stem of the *padi* plant is grasped between the two upper fingers and the thumb a short distance below the lowest node of the panicle, then, by exerting slight tension and sudden pressure with the fingers, the stem is severed (Figure 5).

Figure 5. The Iban method of reaping *padi* with a *ketap*

X 243 461 143. Each panicle is plucked separately, but with great speed, for in reaping, as in sowing, Iban women are remarkably dextrous. On one occasion, for example, I timed a woman to pluck 40 panicles in 30 seconds, but this was in prolific and upstanding *padi*. When the crop is sparse and irregularly developed, nothing like this exceptional speed can be attained, and at the other extreme was a woman who plucked only 18 panicles in half-a-minute. The normal working rate is about 50 panicles per minute. (From 20 different measurements the mean was 52 panicles per minute). Because the quality of crops varies so widely it is difficult to give a general figure for the time taken to reap one acre. At Rumah Nyala, however, I was able to take careful measurements for a test plot, 1/18oth of an acre in extent. The *padi* on this plot was of superior quality, representing a yield of about 42 bushels per acre, after winnowing. The plot was reaped by two women on the morning of 24th April, 1950 (Plate 16), and the task took 28 minutes and 15 seconds to complete. There were no pauses. At this rate it would take one woman about 169½ hours to reap an acre; or, if one allows 10 hours work per day, it would take one woman some 17 days to reap one acre of padi of this high quality. This, and other evidence, leads me to a general estimate, for reaping, of 14-20 woman-days per acre.

X 243 774 144. Men, who sometimes participate in reaping also use the *ketap*, but rarely with the speed and skill of a woman. There can be little doubt that the reaping rate would be accelerated if sickles were used, and both sexes joined in the harvest, but such a method is ruled out because of the reverential attitude which the Iban adopt towards their *padi*. In reaping with the *ketap* the *padi* is taken

3: Low G-5 (1844-1847) 1848
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on all occasions sacrificing his own interest to the good of the settlement of Lundu, which, though under the government of a Dyak, is also a Malayan Town.

In defensive warfare the Dyaks surround their village with a high palisading of palm or other trees, and about all the woods in the neighbourhood are planted 'ranjows,' or small sharp-pointed bamboos, which, on account of the mass of decaying vegetables, are with difficulty detected, and are in consequence, together with pit-falls and other contrivances, of great annoyance to a bare-legged invader. As the sea-Dyaks only go on cruises in the fine season, or from April to October, their boats are taken to pieces during the bad monsoon, by cutting the rattans adrift which hold the planks together.

Forrest notices an instance in which a fleet of the orang Tedong, a piratical people of the east coast of Borneo, and who very much resemble the sea-Dyaks, being shut up in a bay by a Spanish cruiser, which probably hoped they would surrender, they evaded their enemy by cutting the rattans of their boats, which are of similar construction, and carrying away the planks through the jungle; this can very easily be done by the crews of the boats. The sea-Dyaks, during the wet season, lay up the planks of their boats in sheds until the returning fine monsoon invites them again to venture on the ocean. As these planks cost the Dyaks, who are unacquainted with the use of the saw, or any other instrument for forming them but the 'biliong' or adze of the Malays (which can also be used as a chopper,

3: Low G-5 (1844-1847) 1848
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the blade being turned in the haft, which is adapted to it either way), their preservation is an object of no small importance, two only being obtained from a large tree with infinite labour, it being very necessary that the planks of the boat, on account of her construction, should all be of the same length as the 'bankong.' These boats, according to their size, carry crews of from thirty to ninety men, and it is computed that, without making any extraordinary exertion, the rivers of Sarebas and the Sakarran branch of the Batang Lupar could send to sea 200 of them, averaging fifty men each. From the nature of these boats, and the slightness of their build, it may easily be imagined that they are not manageable in a sea-way, their length causing them to open at the seams: on such occasions, should they not be near enough to the land to run into smooth water, the crew all jump overboard, and hang by the side of the boat: this I have been assured they have done for many successive hours when the squalls, which are usually short in these tranquil seas, have been prolonged, so as to render it necessary. In this situation they take it by turns for one or two to enter the boat, and cook and eat their rice, until the squall is past.

The Dyaks, on their cruises, are capable of enduring great fatigue, and, if they meet with reverses, have frequently to contend with the pangs of hunger. It is no uncommon thing for the Dyaks to pull for eighteen hours, with only short intervals of rest sufficient to boil and cook their rice, and this, from the beautiful regu-

7:Gomes M-5 (ca. 1890)1911 OC6 Iban OC6

DYAK GIRLS POUNDING RICE

After the paddy has been passed through the husking mill it is pounded out in wooden mortars. Here are two girls at work. Each has her right foot in the upper part of the mortar to kick back any grains of paddy that may be likely to fall out.

A HUSKING MILL (*Kisar*)

After the paddy is dried and before it is pounded, it is generally passed through a husking mill made in two parts—the lower half having a stem in the middle which fits into the upper part, which is hollow. The paddy is put into a cavity in the upper half, and a man or woman seizes the handles and works the upper half to the right and left alternately. The paddy drips through on to the mat on which this husking mill is placed.

DRYING PADDY

Before it is possible to rid the paddy of its husk and convert it into rice, it has to be dried in the sun. Here a woman is seen spreading out the paddy on a mat with her hands. She is on the outside veranda of the Dyak house (*ruai*). The long pole over her head is used by her to drive away the fowls and birds who may come to eat the paddy put out to dry.

[facing p. 46]

7:Gomes M-5 (ca. 1890)1911 OC6 Iban OC6

[facing p. 52]

SEA DYAKS MAKING A CANOE

Sea Dyaks at work on a small dug-out. The tree has been felled, and the trunk is being cut into shape and hollowed out. The Dyaks are using the native axe or *bliong*, and the picture shows their method of handling it.

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7:Gomes M-5 (ca. 1890)1911 OC6 Iban OC6

dug-out boats draw very little water, and are easily handled, and may be propelled at a good pace.

In shallow streams and in the rapids up-river, the Dyaks use small canoes, which they propel with poles, standing up in the boat to do so.

The principal tools the Dyaks have for their work are the *duku* and *bliong*. The *duku* is a short, thick sword, or, rather, chopping-knife, about two feet in length. The blade is either curved like a Turkish scimitar, or else quite straight. The handle is beautifully carved, and is made of hard wood or of horn. The *duku* is used in war as well as for more peaceful purposes. In the jungle it is indispensable, as without it the Dyak would not be able to go through the thick undergrowth which he is often obliged to penetrate. It is, moreover, used for all purposes where a knife or chisel is used, and is a warrior's blade as well as a woodman's hatchet.

The *bliong* is the axe the Dyaks use, and is a most excellent tool. They forge it of European steel, which they procure in bars. In shape it is like a small spade, about two and a half inches wide, with a square shank. This is set in a thin handle of hard wood, at the end of which there is a woven pocket of cane to receive it. The lower end of this handle has a piece of light wood fixed to it to form a firm grip for the hand. The *bliong* can be fixed in the handle at any angle, and is therefore used as an axe or adze. With it the natives make their boats, and cut planks and do much of their carpentering work. The Dyak can cut down a great forest tree with a *bliong* in a very short time.

While the work of the men is to build houses and to make boats, the work of the women is to weave cloth and make mats.

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(5) Kneaded clay being pounded in preparation for modelling.

(6) The commencement of modelling: the top of a cylinder of prepared clay is flattened out.

(7) A ring of cane is inserted in the top of the cylinder.

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[p. 156c]

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323 412 Soon after one o'clock on the next day, 27th November, Runin began with the preparation of the clay that Demai had collected. All of the pieces of clay (which by then had been drying in the sun for about nine hours) were gathered up into a basket and carried into the gallery of the long-house to be pounded and sieved. The pounding was done in the large wooden mortar (*lesong*)—normally used in the husking of *padi*—which, as is the normal practice in Iban long-houses, stood on a section of the gallery (known as the *tempuan lesong*) just outside Runin's *bilek*. Portion by portion all of the clay was pounded with long, hard-wood poles (*alu*) wielded by Runin and Inyan; the pounding of each portion lasting for about 40 seconds. The pounded clay was then taken handful by handful and passed through a sieve into a large wooded trough (*dulang*). (Plate 3). This sieve (*pengayak*) which was made from *rotan* had a very fine mesh so that only well-powdered clay was able to pass through it. About half a pint of pounded clay was sieved at a time, Runin moving the sieve with a rapid rotary motion in an anti-clockwise direction. Each time about one third of the pounded clay failed to pass through the sieve and was rejected. Runin referred to this rejected 'clay' as '*batu iya*,' lit. 'stones of it,' and to the 'clay' that passed through the sieve as '*isi iya*,' lit. 'flesh of it.' The first pounding and sieving took seventeen minutes. The sieved clay was then passed through the same sieve a second and third time (taking an additional six minutes), until it was thoroughly refined and had reached a consistency about that of coarse flour. There was now in the wooden trough about five pints of finely powdered clay, light grey in colour.

323 Next, Runin stirred up the powdered clay several times so that it became well mixed with air. She then began pouring into the trough (from a gourd) cold water that had been drawn earlier that day from the Tiau River. The water was added little by little, with pauses during which Runin mixed the water into the clay with her hands. (Plate 4). In all, about one and a half pints of water were added, and about one quarter of a pint at a time. There was, however, no hint of formal measurement on Runin's part; everything she did—as at all other stages—was done by spontaneous judgement based, obviously, on long years of experience.

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Once the water had been thoroughly mixed with the clay, kneading began. This kneading (*merok*) was done vigorously, with both hands, and continued for some ten minutes. At the end of this time the mass of clay was divided into five lumps of about equal size, and each lump was rolled into a cylindrical shape about five inches in length by two inches in diameter. These cylinders of kneaded clay were termed *timpan* by Runin, and she remarked that each of them would make one pot.

The most important stage in the preparation of the clay (according to Runin) then followed. Taking one of the cylinders, or *timpan*, Runin placed it on a large, flat-topped, river boulder, and commenced to pound (*nutok*) the clay with a heavy pestle. (Plate 5). The pestle (*alu*) was of hard-wood and 2 ft. 6 ins. in length by two inches in diameter. Runin grasped it in her right hand and pounded the small piece of clay with force, at the rate of about 60 to 70 strokes a minute, while with her unengaged left hand she periodically pushed pieces of flattened clay back under the pestle. Pounding clay in this way is strenuous work, for as the clay stiffens the pestle tends to stick to it. Runin several times complained that her arm was aching, but she continued pounding the same small lump of clay (with occasional brief pauses) for just over twenty minutes. At the end of this time the consistency of the clay had changed greatly: it was now firm, but pliable to the touch, like plasticine of the best quality.

Runin explained to us that the purpose of the pounding was to give the clay plasticity (*mri iya liat*). In other words, not until the clay had become tempered by prolonged pounding was it in a fit condition for modelling. And later she remarked that if the clay were not thoroughly pounded it would not 'hold together' after modelling, and the pot from which it was made would be liable to burst when it was fired ("*Enti enda nutok, tempa enggai rapit, ka blah*"). This, it should be noted, is recognition that pots may burst for technical as well as for mystical reasons. And here let me interpose the general observation that the credence which the Iban give to their magical prohibitions, or *pemali*, does not result in any lessening of concern with technical considerations—as far as they are understood. Only where technology fails does magic rule. This, obviously enough, is a point of some importance in the proper understanding of the role of magic in Iban culture.

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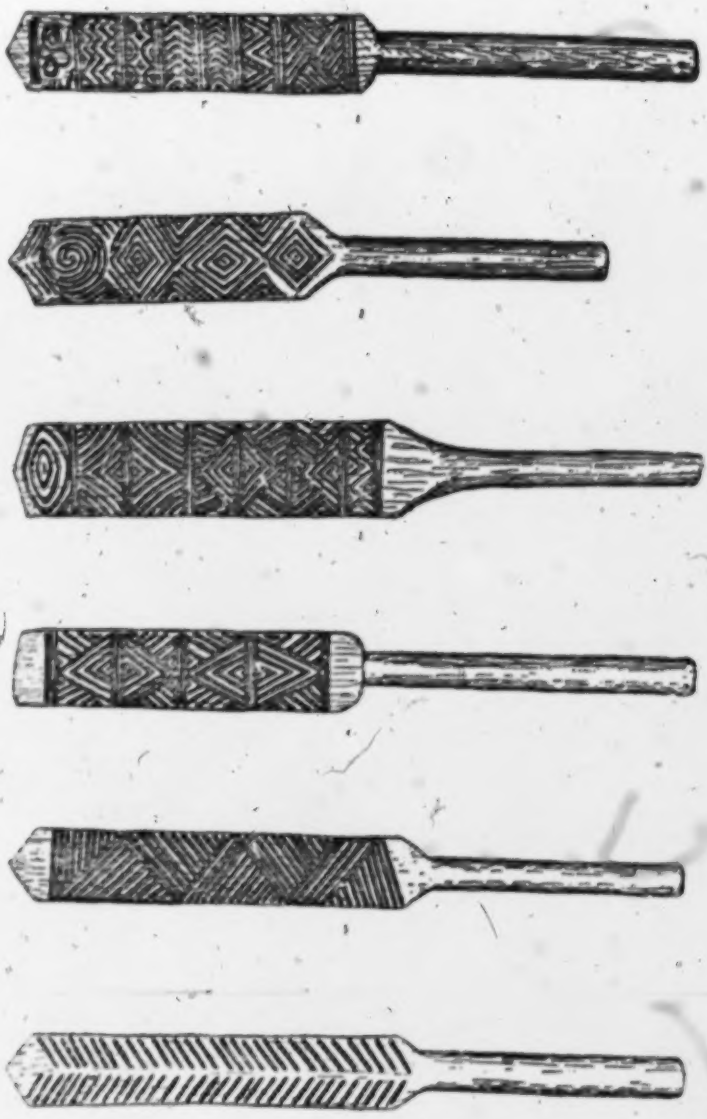

Wooden beaters (*penimba*)
(Nos. 1—6)

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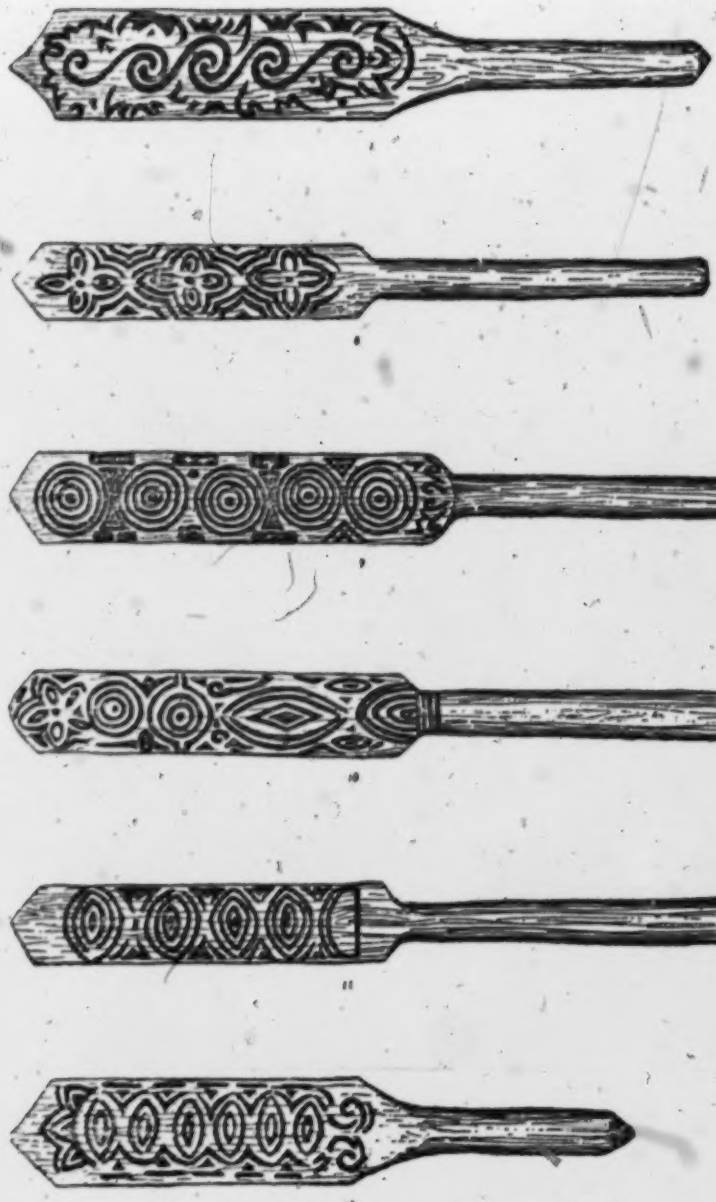

. . . . used in Iban pot-making
(Nos. 7—12)

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323 Runin (assisted by Inyan) went on with the pounding until all five *timpan* were completed and put to one side in a cool place for the modelling that was to begin the next day.

* * *

323 412 The modelling of the pots began on the afternoon of Monday, 28th November, 1949. The main tools in Runin's work kit were three stones and three wooden beaters. The stones were all ovaloid, smooth of surface and of very regular shape, their principal dimensions being: 3ins. × 2¾ins., 2½ins. × 2¾ins. and 2ins. × 1¼ins. All were of natural origin and unworked, having been found some years before in the bed of a near-by river. When a pot is being fashioned one of these stones is held inside the forming vessel to provide a hard, smooth and gently curved base against which the soft clay of the sides is modelled into shape by repeated tappings with a wooden beater. They may, therefore, be called anvil stones.

The wooden beaters used in pottery making are called, by the Iban, *penimba*. In other parts of Borneo, as among the Murut of the upper Trusan,[8] such beaters are made with paddle-shaped blades. In contrast, all of the Iban beaters I have seen have had long and narrow blades with parallel sides. For example, a typical *penimba* (from Rumah Tungku) had an overall length of 13 ins. made up of a blade 7½ ins. in length, 1½ ins. in width and ½ in. in thickness, narrowing to a rounded handle 5½ ins. long and ¾ in. in diameter.

323 412 531 Furthermore, Iban pottery beaters are distinguished in another important way: while one side of a beater commonly has a surface of plain, polished wood, the other usually carries an incised design, often of some complexity. These designs, interestingly enough, have two different uses, one technical and the other aesthetic. Let me deal first with the technical use. In the modelling of a pot one side of the beater is employed and then the other, beginning with the side that bears the design. Now the design is deeply incised in the surface of the beater so that with each blow it becomes clearly impressed in the soft clay and this has the effect of splaying out the clay into numerous tiny ridges and depressions. The beater is then reversed and the plain side of it is used to flatten out the imprinted design into a smooth surface again. In this way by the alternate use of the incised and flat

11:Freeman E-5 (1949-1951)1957 OC6 Iban OC6

blades of the beater the wall becomes progressively thinner and the pot is gradually modelled into shape. The final shaping of the pot is always done with the smooth face of the beater, after which the pot is put to one side for a few minutes to dry.

The pot is then ready to be decorated. One of the beaters is selected (a potter usually has a small collection of them from which to choose), and the incisions carved in it cleaned out with the blade of a knife. The pot is then taken up, an anvil stone held within it, and the patterned blade of the beater gently but firmly tapped over the entire outer suface of the pot—except for its concave neck and lip. A completed pot is thus covered, from its neck down, with an over-all pattern made up of a series of slightly over-lapping impressions of the designs of the beater. This patterning is often very pleasing and there is justification for describing Iban pottery as a decorated ware.

The carving of the design on the pottery beater, which is normally the work of a man, is done with a narrow-bladed, long-handled knife called a *lungga*, and it is interesting to observe that in a number of cases the carving of the beater becomes an end in itself, and ornamental details are added to the top of the handle and the base of the blade—positions from which no impressions could be imparted to the wall of a pot.

Pages 160 and 161 illustrate twelve of the pottery beaters, or *penimba*, which were being used by the women of Rumah Tungku in 1949, and indicate the kinds of decoration which were to be found on their pots.[9] It will be seen that the range in design is considerable—from the simple, oblique lines to linked spirals (so typical of Iban art). It should perhaps be added that none of the motifs used have any special meaning: they are parts of pure designs and used for decorative purposes only.

* * *

We may now return to Rumah Tungku on the afternoon of Monday, 28th November, 1949, for a more detailed description of the modelling of an Iban pot. Runin seated herself on a small mat at the inner edge of the *tanju*, her legs stretched out before her. Across her lap she spread an old hand-woven skirt (*kain chelum*) to make a surface on which to work. From the wooden

243 621 [423] avoid possible conflicts due to overlapping claims to the same ancestral lands. Further, if a member of the house who has moved away to another longhouse because of marriage (nguai), or for some other reason has been away, wants to activate his rights to farm land claimed by his natal [427] bilik, he may do so at that time. Although renting land is not common, it does occur and a token fee of one pasu of padi per acre is charged cf. Freeman 1955:147-8).

243 796 [221] The annual meeting is held at about the end of April, after the previous year's crop has been brought to the house and stored. At that meeting, the date for the Gawai Batu ("Festival of the Whetstone") is set, and the members of the community begin preparations (nengkira) by cooking tuak ("rice wine"), collection and purchase of food, and the inviting of guests. The purpose of the Gawai Batu is to assure a good harvest in the new year.

[412] A ritual center (pandong) is made on each family's ruai, with the whetstone (batu ansah), tools to be used in farming such as weeding knives (ilok), knives (duku'), hoes (changkul), sickles (pitu'), and axes (kapak), together with baskets of seed (benih), wrapped in a woven blanket (pua' kumbu').

243 621 796 At the meeting held to plan the gawai, each tuai bilik states which guests his family will invite. Generally, all members of nearby houses will be invited, while only a few selected friends from more distant houses will be asked to attend. However, if members of the house

242 wilting of the grasses. Some, however, put too much water with the
243 sprays, practicing a false economy (luki') by other Ibans' own estimates, so that the spraying is not effective and the task of weeding more difficult.

243 In most farms land still is cleared with ilok, pitu' and duku',
412 and the cut grasses and stubble left to dry before being fired. The use of these conventional tools is due in part to a greater difficulty of access to the pasar in some cases, with a concomitantly greater cost in the cost of transporting materials. Another reason is that some farms are not cultivated more than two years in succession, then allowed to lie fallow an average of seven years, making clearing more difficult.

228 A novel development has been made by Tuai Rumah Asun who alter-
176 nates a 22 acre site at 4½ miles Durin Road between rice and fish. In
243 May, the pegong ikan ("fish pond") is drained and sold on the Sibu market. The grass in the pond is sprayed with herbicides and fired when dry, after which wet rice is planted. When the rice comes to head, the pond is dammed and stocked again with fry that grow, feeding on the rice, and are caught when the pond is drained at the beginning of the next farming year.

243 Within two days of the full moon in June (keleman sahari dua udah
774 bulan kembong) the rice-beds are planted. The life/death motif noted
[221] earlier in the concept of life beginning and ending with rice appears again in the language used for planting the rice-beds. The seed are interred (dikubor, lit., "entombed") that they may rise and give new life

407 Many longhouse communities have access to gasoline-driven rice-
mills, usually the property of one individual who mills the rice of
[435] other members of the community for a price. For example, at Rumah Gaong, Enchul Apai Jimmy has operated a mill for about ten years, charging M$1.00 per pikul of padi milled. At Rumah Nyala, the Tuai Rumah has a mill and charges M$1.30 per pikul.

3. Division of Labor and Returns

243, 462 In the past and at present, a principal portion of farm-work has fallen to women. In areas where shifting cultivation still is practiced, men help with felling trees and clearing the farms at the beginning of the year, and carry the baskets of rice from the fields to the house at the end of the harvest. But the other tasks generally fall to women.

[412] In wet-rice cultivation, men may help spray fields with herbicides where this technique is used, and also share in the hot and onerous job of preparing the soil by chopping it with a pito, a single-edged blade on a three-and-a-half foot handle. Men also help by rolling the fields where the use of drums has been adopted. But the other work of transplanting and weeding are the lot of women.

243 The time that is spent in farming varies considerably from family
[433] to family, according to the size of the labor-force and the farm they cultivate. Similarly, the returns vary according to the thoroughness of the workers, the quality of the soil, and the use of fertilizers.

18:Sutlive E,M-5 (1957-1971) 1973 OC6 Iban OC6 Sibu

Malanus who manufacture sago flour (cf. Morris, 1964). Sago palms are held by Iban families under customary rights. The trunk of the palm is sawed into 30 inch lengths, split and rasped (diparut) for pig fodder. Sago also is eaten as a rice substitute when the rice supply is exhausted and Ibans have no money with which to buy more.[20] In the Middle Rejang and its tributaries, where the nipa palm does not grow, the leaves of the sago palm (daun mulong) are used for thatching and coverings. The sago nut (buah mulong) is a part of Iban pharmacology, being highly astringent and used in the treatment of diarrhea.

Numerous reeds grow both in low-lying and higher land, and are collected for the manufacture of mats and baskets by women. The reeds (ui, purun, bemban) are cut and taken to the longhouse where they are alternately dried and soaked until the outer covering (kulit) can be cut away (disimu', dilit) with a sharp, long-handled knife (lungga). The species bemban is the most valuable because it requires great attention in preparation for weaving. It is exposed to dew (diperambun) for five to seven nights in order to achieve the prized lightness of color. If rain falls the bemban is quickly retrieved by the women for rain will blacken the bemban. The weaving of baskets and mats is done by women on the longhouse ruai or covered common verandah. In addition to the

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[20] A period that is described colorfully but dreadfully as maya bulan gantong sendok, "when the rice-ladle hangs (empty over the pot)."

342 727 372 periodic ritual smoking in remembrance of the beads.[12]

The ruai is an important area for ritual activities of the Ibans. 342 796 At the beginning of the horticultural year, the pandong (ritual center, with ceremonial blanket enclosing the seed, whetstone, and utensils to be used) is erected on the ruai. The ruai is the path of the bards (lemanbang) to sebayan (the after-world), and it is the way of the gods into the long-house.

Between the ruai proper and the bilik is the tempuan lesong (mortar's 342 412 235 place), where rice mortars and mills are kept when not in use, hence the name. Firewood is stacked against the dinding udok, and fighting cocks are tethered before the owner's bilik. The tempuan lesong may be demarcated [178] by another row of posts, but in some houses there is no such row. In the modern longhouse of Rumah Nyala, several bilik have long benches attached to the wall and the tempuan lesong has become the sitting area.

3. Sadau

Over each bilik and extending about halfway over the padong ruai [251] is a loft which serves a number of purposes. The most common use of the sadau is as a storage area, where the large bark-bins (tibang) containing the family's rice supply is stored. Mats, baskets, and farm utensils may be stored in the sadau. Some families use the sadau as a sleeping area,

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[114] [12] Freeman is right to stress that "these beads (antu pala') are always the property of one particular family, and are never owned by the long-house group as a whole." (Ibid.).

000 those things commonly needed. For example, one of the skills that is
868
• 412 expected of all young men is proficiency in the use of knife and axe. Iban children begin to handle knives at age three or four so that, by late childhood, they are able to perform the multiplicity of tasks with the use of a knife. Similarly, they must learn to use the axe for felling trees and chopping firewood. Commenting on his refusal to return to his long-house during school holidays, a secondary school boy said,

> "I have been away from my house at school since age nine. When I went back one time, my parents asked me to chop firewood. When I tried, the girls laughed at me because I didn't know how. I'll never go back again, except for a day or two."

867 Enculturation occurs not only by example but also by word, and
538 aphorisms, proverbs and myths abound to impress upon the Iban his culture's
539 grammar of values. Success in farming is considered in part due to providence, but the Iban recognize that it requires an equal part of hard work, as expressed in the following proverb:

Satibang, dua tibang,	One rice bin, two rice bins,
Batu Kenyalang.	(Even) a hornbill stone.
Enti' enda' turun nyerang	If you don't go to attack
Enda' ga' numbang ka tiang,	you won't fell the post,
jangka lelaki.	perhaps you are a man.
Sapemansai dua pemansai,	One fish basket or two,
Batu Channai.	(Even) a magical whetstone.
Enti' enda' turun ka umai	If you don't go to your farm
Enda' ga' bulih padi.	You won't get rice.

183 In summary, one basic aspect of this most fundamental value of
243 self-sufficiency is the ability to get enough padi so that other bilik-
[868] families won't have to provide this basic food. Accompanying this is an